

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THE MAIN ADMINISTRATION OR THE CORPORATION, QUES -U-
AUTHOR--BAKHTAMOV, R. *B*
COUNTRY OF INFO--USSR
SOURCE--BAKINSKIY RABECHIY, JULY 28, 1970, P 2, COLS 1-6
DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, BEHAVIORAL AND SOCIAL
SCIENCES
TOPIC TAGS--LATHE, MACHINE TOOL INDUSTRY, INDUSTRIAL ORGANIZATION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1999/0557 STEP NO--UR/9000/70/000/000/0002/0002
CIRC ACCESSION NO--AN0122678
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AN0122678

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE COMPARES THE FUNCTIONS OF MAIN ADMINISTRATION AND CORPORATION, USING THE LENINGRAD MACHINE CONSTRUCTION CORPORATION IMENI SVERDLOV AS AN ILLUSTRATION. THE CORPORATION, ESTABLISHED IN 1962, MANUFACTURES GRINDERS, JIG BORERS, AND SPECIAL MACHINE TOOLS. IT COMPRISES THREE PLANTS, THE LEADING PLANT IMENI SVERDLOV, WHICH MANUFACTURES JIG BORERS AND SPECIAL MACHINE TOOLS, THE PLANT IMENI IL, ICH, WHICH MANUFACTURES GRINDERS, AND THE "AVTOMAT" PLANT, WHICH MANUFACTURES LONGITUDINAL LATHES. THE PRINCIPAL DIFFERENCE BETWEEN THE MAIN ADMINISTRATION GLAVNOYE UPRAVLENIYE OR GLARK, AND THE CORPORATION-FORMA OR OB YEDINENIYE IS THAT THE FORMER IS A MANAGING AND DIRECTING ORGANIZATION WHEREAS THE LATTER IS A PRODUCTION ORGANIZATION.

UNCLASSIFIED

USSR

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UDC 621.791.7.011:62-462:669-419.4

BAKHTEROV, YU. G., Engineer, ISACHENKO, V. I., Candidate of
Technical Sciences

"Features of the Technology of Welding Butt Joints of Bimetallic
Tubes"

Moscow, Svarochnoye Proizvodstvo, No 1, Jan 70, pp 19-21

Abstract: The feasibility of welding bimetallic tubes with bronze filler wire was investigated. Steel tubes (6--55 mm outside diameter), internally clad with copper, were used in the experiment. The ends of the tubes were prepared by removing some of the steel layer so that about 1.5--2 mm of the copper layer was exposed at the butt end of each tube. The steel layer was beveled at the ends for welding. The prepared ends were butted together, leaving a 0--0.3 mm gap between them. Both layers, copper and steel, were welded simultaneously by manual TIG welding with EMts 3-1, OTs 4-3, or MNZhKT 5-1-0.2-0.2 bronze filler wire. The best mechanical properties of welds were obtained with OTs 4-3 and MNZhKT 5-1-0.2-0.2 filler wires. Corrosion tests revealed that the corrosion resistance of the welds and 1/1 weld-adjacent zone was as high as that of the parent metal.

USSR

UDC 552.321.6(234.951)

BAKHTEYEV, M. K., ABRAMKIN, A. S., VOLODINA, I. V., LARICNOV, A. M., and PROSKURIN, G. F., Moscow Geological Exploration Institute imeni S. Ordzhonikidze, Vorkuta Complex Geological Exploration Expedition

"The Geological Nature of Local Aeromagnetic Anomalies of the Western Slope of the Northern Urals (the Verkhnyaya /Upper/ Pechora River Basin)"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy--Geologiya i Razvedka, No 10, Oct 73, pp 41-48

Abstract: A report is given on a detailed investigation of the aeromagnetic anomalies on the left bank of the Verkhnyaya Pechora river, on the water divides of its left tributaries -- the Vyder'ya, the Temp'ya, and the Man'ckaya Volosnitsa. The area of development of stratified metamorphic rock possesses on the whole a negative magnetic field, which is of a strongly varied nature. Numerous local positive anomalies are to be observed against the generally negative background. Two types of anomalies are to be distinguished among the most intensive ones: isometric and linearly elongated. The isometric and linear magnetic anomalies are described. Worthy of note among the geological objects which bring about the local positive magnetic anomalies are the Temp'inskiye hyperbasites. 4 figures. 3 tables. 12 references.

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1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--STUDY OF FORWARD FLOW AND LAGGING IN ROLLING PROCESSES IN RELATION
TO THE SPREAD OF THE METAL -U-
AUTHOR--(02)-BAKHTINOV, YU.B., SEVERDENKO, V.P.
COUNTRY OF INFO--USSR *B*
SOURCE--IZVEST. AKAD. NAUK BELORUSS. SSR, 1970, (FIZ. TEKHN.), (1), 10-15
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--METAL ROLLING, MATHEMATIC EXPRESSION, MECHANICAL PROPERTY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/0136 STEP NO--UR/0201/70/000/001/0010/0015
CIRC ACCESSION NO--AP0135633
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0135633

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXISTING THEORETICAL FORMULAE FOR THE FORWARD FLOW AND LAG OF THE METAL IN ROLLING PROCESSES ARE CRITICIZED AS BEING BASED ON OVERSIMPLIFIED ASSUMPTIONS (UNIFORM VELOCITY, SPECIFIC PRESSURE, AND FRICTIONAL FORCES) AND A REVISED THEORY ALLOWING FOR VARIATIONS IN THESE IS PRESENTED. ANALYTICAL EXPRESSIONS ARE DERIVED FOR THE FORWARD FLOW AND LAG IN RELATION TO THE SPREAD OF THE METAL, AND ALSO FOR THE VELOCITY AT WHICH THE STRIP ENTERS AND LEAVES THE ROLLS AND THE AREA OF THE STRIP IN THE NEUTRAL SECTION.

UNCLASSIFIED

USSR

UDC 621.221

BAKHITAROV, V. A.

"Water Resources, Their Utilization and Conservation"

Tr. koordinats. soveshchaniy po gidrotekhn (Works of the Coordinating Conferences on Hydroengineering), No 59, 1970, pp 10-18 (from PZh-Elektrotekhnika i Energetika, No 2, Feb 71, Abstract No 2 D3)

Translation: The structure of the Earth's water reserves is investigated. Data are presented on the distribution of the annual runoff of all the Earth's rivers (37,000 km³/year) with respect to continental sections. Data are also presented on the magnitudes of the specific runoff per unit surface of dryland and the distribution per man with respect to a number of countries. For the USSR, these indexes are 196,000 m³/km² and 9,000 m³/man, respectively. The water supply indexes of various zones of the USSR are characterized in detail, and data on the magnitude of the runoff and specific runoff with respect to Union Republics are compared. The causes of difficulties with water supply and possible unfavorable consequences of significant increase in nonreturnable water consumption and increase in runoff volume determined by a sharp increase in water consumption by a growing population are analyzed. The necessity for performing a broad complex of water conservancy measures with respect to efficient utilization of water resources and effective conservation

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USSR

BAKHTIAROV, V. A., Tr. koordinats, soveshchaniy po gidrotekhn, No 59, 1970, pp 10-18

of them from industrial and domestic pollution is established. The necessity for improving the water balance of the Caspian Sea by transfer of a significant volume of the northern river runoff (up to 100 km³ per year) is noted. Above all, transfer of the Pechora and Vychegda runoff in the amount of 37 km³ is economically justifiable. Data are presented on the prospective plans for water planning in America, Asia and Africa. In the USSR such remote plans provide for the possibility of transfer of Ob' and Yenisey runoff to the Aral-Caspian Lowland (up to 200 km³ per year and more if necessary). The enormous importance of controlling the pollution of fresh water sources by mandatory passage of all industrial waste water through purifying equipment and improving the methods of purifying industrial discharges is noted. Radical purification of domestic waste can be solved by farm irrigation fields.

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USSR

UDC 621.81.001.5(47+57)

LEVIT, G. O., BAKHITIAROV, V. A., MAKAROV, A. I., and FINAROV, D. P.

"State of the Art in Studies to Generalize the Experience of Planning and Operating Complex-Purpose Reservoirs in the USSR"

Tr. koordinats. soveshchaniy po gidrotekhn. (Works of the Coordinating Meetings on Hydroengineering), No 59, 1970, pp 3-9 (from RZh-Elektrotekh-nika i Energetika, No 2, Feb 71, Abstract No 2 D37)

Translation: The studies of the given problem started in 1966 are participated in by 31 institutes. The basic areas of this research, the organizations participating in it and the results obtained are described. The forms and procedure for publication of the USSR Reservoir Cadaster have been worked out as it is developed. All the reservoirs are divided into three groups: >50 million m³ in volume, the thermal electric power plant reservoirs and reservoirs 10-50 million m³ in volume. As methods of improving the effectiveness of using reservoirs have been developed, an effort has been made to create a procedure for planning and designing complex reservoirs. The basic difficulty consists in the absence of a united approach by the cooperating institutes to the providing of a basis for optimal operating conditions of the reservoir and a united point of view with respect to the

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USSR

LEVIT, G. O., et al., Tr. koordinats. soveshchaniy po gidrotekhn. (Works of the Coordinating Meetings on Hydroengineering), No 59, 1970, pp 3-9 (from RZh-Elektrotehnika i Energetika, No 2, Feb 71, Abstract No 2 D37)

procedure used to estimate losses in various branches on deviating from these operating conditions. The results of research to improve the procedure for forecasting variations of natural conditions when creating reservoirs have been described in greatest detail. The dependence of the intensity of reformation of the reservoir shores on their operating conditions, the variation of ice conditions when building the reservoirs, and the variation of channel reformations when regulating runoff have been noted. The development of methods of planning measures and determining expenditures when building reservoirs has been carried to the level of procedural instructions. The research has led to the conclusion that land evaluation must be reduced to the cost of measures to conserve the agricultural production balance while insuring a net profit. The increasing role of engineering protection of the land and increased requirements on sanitary by-passes have been established. The future research goals are formulated. There is 1 table.

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USSR

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BETEKHIN, V. I., BAKHTIBAYEV, A. N. (Joffe Physics-Engineering Institute, USSR Academy of Sciences, Leningrad)

"Longevity and Creep of Single Ionic Crystals"

Leningrad, Solid State Physics; February, 1970, pp 429-432

Abstract: The creep and longevity of single haloid crystals of NaCl, KCl, and LiF tested under conditions of single-axis tension in the atmosphere and in a vacuum of $5 \cdot 10^{-6}$ mm Hg were studied.

A close relationship was observed to exist between breakdown and creep -- in particular, the activation energy of these processes which is the same or close to the sublimation temperature of the crystals. The processes of creep and longevity in the atmosphere and in a vacuum appeared to follow the same rule.

The data obtained confirm the basic positions of the kinetic concentration of damage formulated in the works of S. N. Zhurkov and his associates.
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USSR

BETEKHTIN, V. I., BAKHTIBAYEV, A. N, Solid State Physics; February 1970, pp 429-432

The authors express their gratitude to S. N. Zhurkov for his guidance and interest in the work and to A. I. Slutsker for his discussion of the results.

The article includes 4 equations and 4 figures. There are 8 references.

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Acc. Nr:

AP0048622

Abstracting Service:

CHEMICAL ABST. 570

Ref. Code:

U R 0181

104839h Longevity and creep of ionic single crystals. Be-
tekhtin, V. I.; Bakhtin, A. N. (Fiz.-Tekh. Inst. im. Lofte,
Leningrad, USSR). *Fiz. Tverd. Tela* 1970, 12(2), 429-32
(Russ). Longevity and creep were investigated in single crystals
of NaCl, KCl, and LiF tested under the conditions of uniaxial
stretching in atm. and in vacuum (5×10^{-4} torr). A close
relation was obsd. between decompn. and creep; in particular,
the energy of activation of these processes is the same and close
to the heat of sublimation of the crystals. Regularities of
creep and longevity in atm. and vacuum are the same. The
data confirm the basic assumptions of the kinetic concept of
decompn. A. Libackyj

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1/2 027 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--LONGEVITY AND CREEP OF SINGLE IONIC CRYSTALS -U-
AUTHOR-(02)-BETEKHTIN, V.I., BAKHTIBAYEV, A.N.
COUNTRY OF INFO--USSR
SOURCE--LENINGRAD, SOLID STATE PHYSICS; FEBRUARY, 1970, PP 429-432
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--CREEP, IONIC CRYSTAL, ACTIVATION ENERGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/0854 STEP NO--UR/0181/70/000/000/0429/0432
CIRC ACCESSION NO--AP0126526
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0126526

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CREEP AND LONGEVITY OF SINGLE HALOID CRYSTALS OF NaCl, KCl, AND LiF TESTED UNDER CONDITIONS OF SINGLE AXIS TENSION IN THE ATMOSPHERE AND IN A VACUUM OF 5 TIMES 10⁻⁶ MM HG WERE STUDIED. A CLOSE RELATIONSHIP WAS OBSERVED TO EXIST BETWEEN BREAKDOWN AND CREEP, IN PARTICULAR, THE ACTIVATION ENERGY OF THESE PROCESSES WHICH IS THE SAME OR CLOSE TO THE SUBLIMATION TEMPERATURE OF THE CRYSTALS. THE PROCESSES OF CREEP AND LONGEVITY IN THE ATMOSPHERE AND IN A VACUUM APPEARED TO FOLLOW THE SAME RULE. THE DATA OBTAINED CONFIRM THE BASIC POSITIONS OF THE KINETIC CONCENTRATION OF DAMAGE FORMULATED IN THE WORKS OF S. N. ZHURKOV AND HIS ASSOCIATES. THE AUTHORS EXPRESS THEIR GRATITUDE TO S. N. ZHURKOV FOR HIS GUIDANCE AND INTEREST IN THE WORK AND TO A. I. SLUTSKER FOR HIS DISCUSSION OF THE RESULTS. FACILITY: JOFFE PHYSICS ENGINEERING INSTITUTE, USSR ACADEMY OF SCIENCES, LENINGRAD.

UNCLASSIFIED

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USSR

UDC 911.3.616.981.452(574)

LAVROVSKIY, A. A., KUCHEROV, P. M., OPTYAKOVA, A. F., ROZHKOVA, A. A.,
DEREVYANCHENKO, K. I., MATSUGA, V. G., BAKITIGOZIN, I. A., ROZHKOVA, A. A.,
CHIKRIZOV, F. D., KARUSHIN, P. A., and DUBYAGIN, P. S.

"Survival of Plague Bacteria During Interepizootic Years in the Sands Focus Area
Between the Volga and Ural River"

V sb. Probl. osobo opasn. infektsiy (Problems of Especially Dangerous In-
fections -- collection of works) Vyp. 4 (14). Saratov, 1970, pp 94-104
(from RZh-Meditsinskaya Geografiya, Separate Issue, No 4, Abstract No
4.36.93)

Translation: A list is presented of reasons for the abrupt decrease in
epizootic activity in the sands plague focus between the Volga and Ural
Rivers. Plague bacteria, however, did not disappear from the biocenotic
focus system, as evidenced by the epizootics of 1962-1963 and 1966 and the
isolated cases of isolation of bacterial cultures from gerbils during de-
pressed phases of focus life. It becomes more and more evident that the
phenomenon of microfocality is an indispensable attribute of existence of
plague bacteria in the biocenosis. Materials on landscape adjustment of
particularly stable plague epizootics facilitate the definition, in the

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LAVROVSKIY, A. A., et al., Probl. osobo opash. infektsiy (Problems of Especially Dangerous Infections -- collection of Works) Vyp. 4 (14). Saratov, 1970, pp 94-104 (from RZh-Meditsinskaya Geografiya, Separate Issue, No 4, Abstract No 4.36.93)

Volga-Ural sands area, of several more significant regions where the plague pathogen apparently survives even during depressed phases of focus activity.

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USSR

UDC 621.43.011:533+621.5:533

BAKHITGOZIN, SH. KH., NAUMOV, M. S., SHELUKHIN, G. G.

"Calculating a Turbulent Flare at the Wake Boundary"

V sb. 3-y Vses. simpoziuma po goreniyu i vzryvu, 1971 (Third All-Union Symposium on Combustion and Explosion, 1971--collection of works), Chernogolovka, 1971, pp 126-128 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11B305)

Translation: Some principles of the procedure for calculating the characteristics of a turbulent gas flare during diffusion combustion are discussed. A study was made of two schemes for feeding the components to the combustion chamber: 1) along the chamber axis with axial arrangement of the jets; 2) through jets normal to the chamber axis. The diffusion flare was calculated by the method of the equivalent problem of the theory of thermal conductivity. The solution of the partial differential equations with one sliding limit was found by the approximate Polhausen-Karman method. The temperature and concentration fields along the length of the chamber were calculated. The mean integral gas temperature at the chamber outlet was determined. The calculations were checked experimentally. Using a high-speed movie and the color method, the temperature distribution in the flare was measured and compared with the calculated temperature.

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USSR

UDC: 669.71.472(088.8)

BELOV, Yu. I., SOBOL', I. I., BAKHTIN, A. A.

"Method of Removal of the Lining of an Aluminum Electrolyzer"

USSR Author's Certificate Number 351926, Filed 27/07/70, Published 11/12/72
(Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No
8G176P, by G. Svodtseva).

Translation: A method of removal of the lining of an aluminum electrolyzer including breakup of the lining, differing in that in order to reduce the time required for overhaul of the electrolyzer and increase the productivity of the labor, the lining is broken up by lifting it upward in the loops of lines which are preliminarily placed on the layer of refractory filler between the cathode shell and the lining as it is installed. The ends of the lines are placed between the side plate and shell of the bath in the filler 1/4-1/3 of the way down from the top of the cathode shell. A cross-sectional drawing of an electrolyzer is presented.

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USSR

WFO: 51

BAKHIN, A. Ye., EVONOV, Ye. N.

"A Numerical Method for Calculating Linear Models of Optimum Territorial Production Planning"

V sb. Mat. analiz ekon. modeley. Ch. 2 (Mathematical Analysis of Economic Models--collection of works. Part 2), Novosibirsk, 1971, pp 3-52 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V806)

[No abstract]

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USSR

BAKHITIN, A. Ye., PASTUKHOV, N. F.

"One Approach to the Solution of Problems of Optimal Territorial-Production Planning"

Optimiz. Planov. Razv. i Razmeshch. Otrasley Prom-sti [Optimization of Plans for Development and Placement of Branches of Industry -- Collection of Works], Novosibirsk, 1971, pp 57-90 (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V539 from the Introduction).

Translation: A numerical method is described for calculating linear models used for optimal territorial-production planning. Based on the models studied, the problem of prospective development of branches of industry, problems of the development of economic regions and industrial complexes are solved.

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USSR

UDC: 512.25/.26+519.3:330.115

BAKHTIN, A. Ye.

"The Block Method of Solutions of Problems in Linear Programming"

V sb. Mat. metody resheniya ekon. zadach (Mathematical Methods of Solving Economic Problems--collection of works), Novosibirsk, "Nauka", 1971, pp 63-78 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V484)

Translation: The author considers a block method of solving extensive problems in linear programming. Use of the method in certain special cases preserves the structure of the matrix. The resolution of a large problem into small ones is based on the idea of "freezing" and unfreezing" dual variables, which was advanced by L. V. Kantorovich, and on the idea of resolvability of Rozen. In essence, this method may be considered as one of the possible realizations of the dual simplex method. Introduction.

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USSR

UDC 51.330.115

BAGRINOVSKIY, K. A., BAKHTIN, A. Ye., BERLYAND, Ye. L.

"Algorithm for Production of Global Optimal in Economic System with Two Levels of Planning"

Mat. Vopr. Formir. Ekon. Modeley [Mathematical Problems of Formation of Economic Models -- Collection of Works], Novosibirsk, 1970, pp 27-54 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V587).

No Abstract.

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USSR

UDC: 627.826/.828:699.841

BAKHTIN, B. M., Engineer

"Seismic Stability of a Massive Buttress Dam"

Moscow, Gidrotekhnicheskoye Stroitel'stvo, No 5, May 73, pp 29-33

Abstract: The authors present incomplete experimental data which can be used in design work for taking into consideration dam foundation pliability and its effect on seismic stability. In the case where a construction is subjected to the seismic effect of the travelling wave type which is directed along a canyon, the magnitude of the stresses in the buttresses at the base of a dam can be much greater than that obtained by calculation or experimentally without taking into consideration foundation pliability. Local stress concentrations appearing at the lower part of the dam in the interface zone of the buttress haunches during transverse seismic effect can be eliminated with the aid of joint-cuts on the lateral faces of the haunches or by putting in a pliable partition under each section. These partitions must have high tensile strength. Joining all of the intersection seams of a dam is an effective means of raising its seismic stability during transverse seismic activity. The results show that dams with pliable foundations which are nonsymmetric in the construction plane with single buttresses can be as reliable as more rigid dams with hollow buttresses.

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USSR

UDC 577.4

BAKHTIN, I. A.

"Approximate Solution of an Extremal Problem"

Voronezh, V sb. Nekotor. vopr. vyssh. mat. (Some Problems in Higher Mathematics--collection of works) 1971, pp 66-93 (from RZh--
Matematika, No 7, 1972, Abstract No 7V495)

Translation: This paper is devoted to finding the minimum value, and the points at which this value is reached, of the function

$$\varphi = \sum_{i=1}^L \frac{a_i^{x_i} b_i^{y_i} \dots c_i^{z_i} d_i^{u_i}}{N}$$

($0 < a_i, b_i, \dots, c_i, d_i \leq 1$) for the polyhedron

$$\sum_{i=1}^L x_i = m_1, \sum_{i=1}^L y_i = m_2, \dots, \sum_{i=1}^L z_i = m_{n-1},$$

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USSR

BAKHTIN, I. A., Nekotor. vopr. vyssh. mat., 1971, pp 66-93 (from
RZh--Matematika, No 7, 1972, Abstract No 7V495)

$$\sum_{i=1}^L u_i = M_N; x_i, y_i, \dots, z_i, u_i \geq 0, m_i > 0.$$

This problem was investigated for the particular case of $N = 2$
(RZh--Matematika, 1965, Abstract No 3V206). From the introduction

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USSR

UDC 577.4

RAKHITIN, I. A.

"Approximate Solution of An Extremal Problem"

V sb. Nekotor. vopr. vyssh. mat. (Some Problems of Higher Mathematics -- collection of works), Volonezh, 1971, pp 66-93 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V495)

Translation: This paper is devoted to the problem of finding the least value and the points at which this value is reached for the function

$$\phi = \sum_{i=1}^L \frac{a_i^{x_i} b_i^{y_i} \dots c_i^{z_i} d_i^{u_i}}{N}$$

($0 < a_i, b_i, \dots, c_i, d_i \leq 1$) on the polyhedron

$$\sum_{i=1}^L x_i = m_1, \sum_{i=1}^L y_i = m_2, \dots, \sum_{i=1}^L z_i = m_{N-1}, \sum_{i=1}^L u_i = m_N;$$

$$x_i, y_i, \dots, z_i, u_i \geq 0, m_i > 0.$$

This problem was investigated in the special case of $N = 2$ (RZh-Matematika, 1965, 3V206).

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Higher Algebra & Geometry and Topology

USSR

UDC 517.432.1

BAKHTIN, I. A., GONCHAROV, G. M.

"Existence of General Fixed Points for a Combination of Conjugate Operators"

Novosibirsk, Sibirskiy Matematicheskiy Zhurnal, Vol 13, No 1, 1972, pp 17-23

Abstract: Several new theorems of the existence of general fixed points for a combination of conjugate operations are presented. This paper differs from others of its type in that it does not require positive operators nor their commutative characteristics. The research is conducted in real Banach space E , with $\Gamma\{A\}$ representing the combination of linear operators A acting in E . In the first half of the paper, signs of the existence of general fixed points for commutative combinations of conjugate operators are discussed; in the second half, the authors derive the necessary and sufficient conditions for the existence of the general, positive fixed points for arbitrary combinations of conjugate operators.

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1/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--GROWTH OF DOUBLE LAYER GRANULES IN A FLUIDIZED BED -U-
AUTHOR--BAKHTIN, L.A. **B**
COUNTRY OF INFO--USSR
SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(3), 206-8
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--FLUIDIZED BED, CHEMICAL DEPOSITION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/0341 STEP NO--UR/0064/70/046/003/0206/0208
CIRC ACCESSION NO--AP0137445

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137445

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GROWTH OF DOUBLE LAYER GRANULES BY DRYING OF A SOLN. (OR SOLIDIFICATION OF A MELT) ON PARTICLES OF A DIFFERENT NATURE IN A FLUIDIZED BED IS ANALYZED MATH., AND EQUATIONS ARE DERIVED FOR THE RECYCLE RATIO, THE RESIDENCE TIME OF THE PARTICLES IN THE BED, THE SIZE DISTRIBUTION OF PARTICLES, AND THE COMPN. OF THE PARTICLES; THE DISTRIBUTION OF THE RESIDENCE TIMES OF RECYCLED PARTICLES IN THE BED IS DESCRIBED BY THE SAME EQUATIONS AS FOR A FLUIDIZED BED IN THE ABSENCE OF A LIQ. PHASE, AND THE REQUIRED RELATION BETWEEN THE CONCNS. OF COMPONENTS IN THE KERNELS AND OUTER LAYERS IN THE PARTICLES MAY BE ACHIEVED BY CONTROLLING THE RATES OF SUPPLY OF SOLID AND LIQ. PHASES.

UNCLASSIFIED

USSR

UDC 621.375.4.029.64

BAKHITIN, N. A., SHVARTS, N. Z.

"Transistorized Microwave Amplifiers With Dissipative Balancing Circuits"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 8, Aug 71, pp 1401-1410

Abstract: The paper presents the approximate theory of a microwave transistor amplifier with dissipative balancing circuits. The theory includes a brief analysis of the equivalent circuit of the transistor, balancing and matching circuits, stability and noises. It is pointed out that synthesis of an amplifier does not necessarily have to include all stages analyzed in the article. However, simplifications made in "experimental synthesis" are at the expense of generality and the possibility for exhaustive analysis.

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USSR

UDC 621.382.621.317.799

BAKHTIN, N.A., SHVARTS, N.Z.

"Measurements Of The S-Parameters Of Microwave Transistors"

V sb. Poluprovodn. pribory i ikh primeneniye (Semiconductors Devices And Their Application--Collection Of Works), No 23, Moscow, "Sov.radio," 1970, pp 276-284 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B487)

Translation: A method is considered for measurement of the S-parameters (parameters of the scattering matrix) of microwave transistors. The requirements for the apparatus are formed, and possible errors of measurement of the parameters are analyzed. It is shown that by small additions to standard apparatus, it is possible to produce a device for measurement of the S-parameters of transistors at frequencies of 1-4 GHz. 3 ill. 2 ref.

1/1

ELECTRONICS

USSR

Amplifiers

UDC: 621.375.4

BAKHTIN, N. A., SHVARTS, N. Z.

"Transistorized Microwave Amplifiers. (Problems of Theory and Design)"

V sb. Poluprovodn. pribory v tekhn. elektrosvyazi (Semiconductor Devices in Technical Electrical Communications--collection of works), Moscow, "Svyaz", 1970, pp 6-21 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1D10)

Translation: The peculiarities of transistorized microwave amplifiers are formulated on the basis of representing transistors as linear active two-terminal pairs. A notational system is presented which is convenient for describing transfer characteristics, matching and also stability of the amplifiers. Bibliography of 12 titles. Resumé.

1/1

USSR

UDC 669.721.5'5'296'73:548.53:539.4

DRITS, M. YE., GUR'YEV, I. I., BAKHTINA, T. M.

"Recrystallization Diagram and Mechanical Properties of VMDZ Alloy as a Function of the Degree of Deformation and the Annealing Temperature"

V sb. Struktura i svoystva legk. splavov (Structure and Properties of Light Alloys -- collection of works), Moscow, Nauka Press, 1971, pp 64-68 (from RZh-Metallurgiya, No 4, Apr 72, Abstract No 4I657)

Translation: A study was made of the effect of structure on the mechanical properties of sheets of the new Mg-alloy, VMDZ of the Mg-Zn-Zr-Cd-La system. It was established that the maximum strength characteristics are achieved in the presence of an unrecrystallized or partially recrystallized structure and decrease stepwise as the degree of recrystallization and grain size increase. The optimal annealing temperature is 250-300°C. The recrystallization diagram of the VMDZ alloy and the graph of the mechanical properties as a function of grain size and annealing temperature were constructed. Three illustrations and two tables.

1/1

USSR

UDC 531.781.2:621.382

BAKHTINOV, V. V., Engineer, GAMPER, I. G., Candidate of Technical Sciences,
SHISHLYANNIKOV, B. M., Engineer

"p-Type Silicon Diffusion Strain Resistors"

Moscow, Pribery i Sistemy Upravleniya, No 1, Jan 71, pp 59-60

Abstract: A new diffusion strain resistor is discussed in this article. It is pointed out that the use of a thin strongly alloyed layer of semiconducting material only a few microns thick as the resistor has a number of advantages over uniformly alloyed strain resistors: e.g., much weaker dependence of the resistance and strain sensitivity factor on temperature, possibility of obtaining practically any rated resistance, use of the strain resistor as an elastic element (beam) in which the strain-sensitive layer is bound to the body of the beam by atomic bonds, significantly improving the thermal contact of the strain sensitive elements with the base and eliminating problems caused by the presence of glue.

The procedure used to obtain p-type diffusion layers and to investigate the characteristics of diffusion strain resistances is described. Graphs are presented showing the strain sensitivity factor S as a function of the surface concentration N_B in diffusion layers of p-Si at $T = 293^\circ\text{K}$, the strain

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USSR

BAKHTINOV, V. V., et al., Pribery i Sistemy Upravleniya, No 1, Jan 71, pp 59-60

sensitivity factor S as a function of the temperature T for different N_g [surface concentration of the diffused admixture] in cm^{-3} , α_R [the thermal resistance coefficient] of the p-Si diffusion layers as a function of the surface concentration N_g , and the static characteristic of a p-type silicon diffusion strain resistor.

The research led to manufacture of diffusion strain sensitive elements of the cantilever type with the following parameters:

Resistance of upper and lower strain resistors in ohms	55
Resistance dispersion in %	+5
Insulation resistance in kilohms	60-100
Geometric dimensions in mm	7x0.6x0.15
Thermal coefficients of strain sensitivity and resistance	
in degrees ⁻¹ :	
α_S	$1.3 \cdot 10^{-3}$
α_R	$1.5 \cdot 10^{-3}$

2/2

USSR

UDC 539.384/.385

BAKHTIYAROV, I. A., ALIYEV, K. A., GASANOV, E. E.

"Twisting of Prismatic Beams Weakened by a Nonaxial Cylindrical Cavity"

Uch. zap. Azerb. in-t nefti i khimii (Scientific Notes of Azerbaijan Institute of Oil and Chemistry), 1972, Series 9, No. 4, pp 57-62 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V78)

Translation: The problem of the twisting of prismatic rods, the cross section of which is a doubly connected region bounded from the outside by an ellipse or a right polygon with smoothed angles and from within by an eccentrically located circumference, is solved. The outer contour is reflected on a unit circumference with the aid of a two-term function of a complex variable. The stress function is compiled in the form of the sum of two infinite series that are regular in the region considered. Determination of the coefficients of the series is reduced to a simultaneous solution of two groups of systems of infinite algebraic linear equations. Particular examples of the problem are given, where the external contour is an ellipse, a curvilinear square, or a curvilinear hexagonal. 6 ref. K. V. Solyanik-Krassa.

1/1

- 100 -

AT0020283

CHEMICAL ABST.

1-70

UR 0000

6410s Viscosity of ternary mixtures of organic liquids over a wide temperature range. Bakhtiyarova, A. M., Malvavin, I. G. (USSR). *Uch. Zap. Mosk. Obl. Pedagog. Inst.* 1968, 165(1), 131-4 (Russ). The viscosity of mixts. of C_6H_6 , PhMe, and Me-OH was measured in an hermetic viscosimeter by a Stokes method at 30-260°. The mixts. were satd. with 1 of the components. The dependence of the viscosity on temp. has similar form for both the mixt. and its components.

L. Kuca

19620200

Devices

USSR

UDC 621.397.7

BAKHTOB, I. S., KLYKOV, S. I., BOGORODSKIY, G. N., MINEYEV, V. V. [Tsentr. n.-i. in-t svyazi--Central Scientific-Research Institute of Communications]

"Device for Shaping of Video Signal for Facsimile Apparatus"

USSR Author's Certificate No 253123, Filed 31 May 68, Published 23 Jan 70
(from RZh--Elektrosvyaz, No 9, Sep 70, Abstract No 9.64.229P)

Translation: A device is proposed which differs from those known by the fact that the output of the video signal at the transmitting end is connected through a white level stabilizer to series-connected units for shaping the pulse height and to two duration shapers connected through an inverting amplifier. At the receiving end, the output of a low-frequency filter is connected through a trigger with a single-threshold circuit and an inverting amplifier to identical series-connected duration shapers, which are separated by the inverting amplifier. The device proposed makes it possible to increase the freedom from noise of the transmitted facsimile signals with simultaneous correction of the aperture distortions. One illustration. G. M.

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USSR

UDC: 621.397.12

BAKHOTOV, I. S., LUBANOV, S. P., MEL'NIK, O. S.

"Is it Advisable to Convert Facsimile Equipment to Frequency Modulation?"

Moscow, *Elektrosvyaz'*, No 8, 1971, pp 45-51

Abstract: For a number of reasons, the authors feel that amplitude modulation should be given preference over frequency modulation in wirephoto systems. After comparing the basic parameters of the two methods of modulation, i. e. interference-killing properties, channel loading, the frequency spectrum occupied and transmission speed in the given channel, it is concluded that the use of frequency modulation in transmission of line and halftone images not only fails to improve image quality, but at the same time results in a reduction of transmission speed, complicates the equipment considerably, and eliminates the capability for utilizing low saturation by information signals. The authors feel that changing the entire facsimile installation over to frequency modulation is not the only way to reduce loading of the communications channel and raise the resistance to interference. As a

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USSR

BAKHITOV, I. S. et al., 'Elektrosvyaz', No 8, 1971, pp 45-51

basic method of signal transmission, they recommend amplitude modulation by positive signals, using frequency conversion attachments in cases where the operating conditions of the channels call for frequency modulation.

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Acc. Nr.

AP0050715

Abstracting Service:

CHEMICAL ABST. 5/70

Ref. Code

4P0368

B

105540r Conclusions about the properties of a growth curve showing the intensity of the radiation of a spectral line. Ovechkin, G. V.; Sandrigailo, L. E.; Bakhtovarshov, Sh. (USSR). *Zh. Prikl. Spektrosk.* 1970, 12(1), 21-34 (Russ). An empirical correction is made for growth curves of spectral line radiation intensities of Cu 1 2441, 2824, 2961, and 5105 Å. Calcns. by using the modified formula indicated that the limiting concns. of atoms varied not only for each line, but also for different discharge conditions, such as the initial concn. of Cu and the heterogeneity of the samples; the latter was found for Na and Cr mixts.

J. Beller

1/1

REEL/FRAME
19810713

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USSR

UDC 615.473.2:615.373.6

BAKHUR, Ye. A., NAUMENKO, Yu. I., and SPOTAFENKO, S. S., Central Institute of
—Epidemiology and Moscow Institute of Roentgenology and Radiology

"Possibility of Using the Krantz Jet Injector for Injecting Gamma Globulin"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972,
pp 92-96

Abstract: Gamma globulin injected intradermally with a Krantz syringe was not efficacious in preventing infectious hepatitis even during the first few months after immunization. In investigating the cause, the authors found that the device does not force the full dose of the preparation into the skin, mainly because of its viscosity. Tests showed that when the injector was filled with distilled water or physiological saline, about 2% of the liquid was not discharged, but when it was filled with 10% gamma globulin, as much as 6 to 7% remained in the reservoir. Moreover, other tests using the radioisotope method (Au^{198}) revealed that only 19% of a 0.1 ml dose of gamma globulin enters the skin when the Krantz injector is used compared to 57% of the same amount of physiological saline.

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172 014 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--UNDERGROUND STORAGE OF HARMFUL WASTES -U-
AUTHOR--(02)-DOLGIKH, P.F., BAKHUROV, V.G. B
COUNTRY OF INFO--USSR
SOURCE--AT. ENERGI. (USSR); 28: 70-1 (JAN 1970)
DATE PUBLISHED---JAN70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--RADIOACTIVE WASTE DISPOSAL, UNDERGROUND FACILITY, CLAY

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1979/1815 STEP NO--UR/0089/70/028/000/0070/0071
CIRC ACCESSION NO--AP0048118
UNCLASSIFIED

2/2 014
CIRC ACCESSION NO--AP0048118

UNCLASSIFIED

PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE UNDERGROUND STORAGE OF COMPLEX SALT SOLUTIONS, INCLUDING RADIOACTIVE WASTES, IN NATURAL OR EXPLOSION PRODUCED CAVES IN CLAY SOILS CAN BE EFFECTIVE, ESPECIALLY WITH WASTES TREATED AND SOLIDIFIED WITH BENTONITE CLAY AND LYE.

89

UNCLASSIFIED

USSR

UDC 621.372.061

BAKHVALOV, L. A.

"Application of the Methods of Mathematical Planning of Experimentation for Analysis of Radioelectronic Circuits"

Metody razrab. radioelektron. apparatury. No 1 (Methods of Developing Radio-electronic Equipment, No 1), Moscow, 1970, pp 163-167 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A117)

Translation: This article contains an investigation of the basic experimental-statistical methods of obtaining mathematical models of an investigated unit (analytical expressions). For any combination of input parameters the model permits determination of values of the output parameters. A method of sorting the most significant parameters is demonstrated. There are three illustrations and a four-entry bibliography.

1/1

- 42 -

USSR

UDC 621.396.6.019.3

BAKHVALOV, L. A.

"Some Approximate Methods of Calculating the Reliability of Radioelectronic Devices Subjected to External Disturbances"

Metody razrab. radioelektron. apparatury. No 1 (Methods of Developing Radio-electronic Equipment, No 1), Moscow, 1970, pp 189-193 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A179)

Translation: This article contains an analysis beginning with the vector of the input parameters with components given in a defined interval and the vector of output parameters which is a random vector assuming values in some region. As an example, the device containing a phantatron is investigated. The bibliography has six entries.

1/1

- 39 -

BAKHVALOV, N.S.

Radio-frequency

SO: JPRS 54485
7 SEP 73

(12)

622

UDC 621.396.628:023.144

DETERMINATION OF THE POLARIZATION CHARACTERISTICS OF THE RANGE
PULSAR RADIO TELESCOPE

Article by N.A. Yezhovskiy, N.S. Bakhvalov, A.G. Vasil'yeva,
N.A. Sholova, and A.V. Temiriyev, of the Institute of the Branch of
the Special Astrophysical Observatory of the USSR Academy of
Sciences, Moscow, Izvestiya Vsesoyuznogo nauchnogo tsentra
Radiofiziki, Russian, Vol 16, No 5, 1973, submitted 31 October
1972, pp 669-675

Investigation of radio-frequency radiation sources by
to determine the distribution of the radiative intensity in all
Stokes' parameters I, Q, U, and V. However, both the medium in
which the radio-frequency radiation is propagated and the an-
tenna and receiver affect the true parameters of the source I₀,
Q₀, U₀, and V₀. Therefore, the Stokes' parameters at the
receiver equipment output differ from the sources' "true" param-
eters and are linked with the following relationship (1)

$$S_{out} = M_1 M_2 S_{in} \quad (1)$$

Here $S_{out} = \begin{bmatrix} I_{out} \\ Q_{out} \\ U_{out} \\ V_{out} \end{bmatrix}$ is the vector parameter of Stokes' output
radiation,

$S_{in} = \begin{bmatrix} I_{in} \\ Q_{in} \\ U_{in} \\ V_{in} \end{bmatrix}$ is the Stokes' vector parameter of the input or
radiation being studied, and

M_1 , M_2 , and M_3 are the matrix operators, with matrix M_1
describing the effect of the receiver-amplifying equipment and
the input circuit on the radiation being studied, M_2 the effect
of the antenna system, and M_3 the effect of the medium between
the source and the observer.

USSR

UDC: 532.5

BAKHVALOV, N. S., EGLIT, M. E., Moscow

"Study of One-Dimensional Motion of a Snow Avalanche Down a Flat Slope"

Moscow, Mekhanika Zhidkosti i Gaza, No 5, Sep-Oct 73, pp 7-14

Abstract: Increased construction in mountain areas where there is a danger of snow avalanches makes it important to provide protection from them. Various methods can be used in practice, bringing up a large number of engineering and mechanical problems. In particular, in planning protective structures information is required on the parameters on moving avalanches -- velocities, front heights, snow densities, etc., that is the movement of avalanches down a slope must be calculated, as must their interaction with the structure being studied. Other important information includes the maximum range of an avalanche, that is the boundary of the avalanche danger zone. This work is dedicated to analytic and numerical studies of the one-dimensional movement of an avalanche. An asymptotic solution is produced to the problem of one-dimensional movement of an avalanche down a flat, smooth slope. The avalanche is modeled considering that quiet snow lies before it of known density, strength and thickness, and that the snow begins

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USSR

BAKHVALOV, N. S., EGLIT, M. E., Mekhanika Z idkosti i Gaza, No 5, Sep-Oct 73, pp 7-14

moving when the avalanche front passes. The snow is broken up into clumps by the passing avalanche, penetrates into the body of the avalanche and travels along with it, mixing chaotically. The stream of snow produced is locked upon as a turbulent flow of fluid with complex properties.

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USSR.

UDC 518:517.91/.94

BAKHVALOV, N. S.

"Optimization of Methods for Solving Ordinary Differential Equations With Strongly Oscillating Solutions".

Moscow, Zhurnal Vychislitel'noy Matematiki i Matematicheskoy Fiziki, Vol 11, No 5, Sep-Oct 1971, pp.1318-1322

Abstract: This brief communication considers the Cauchy problem for the differential equation of the type

$$\mu^2 y'' + a(x)y = f(x), \quad a > 0.$$

With μ/\sqrt{a} small, the characteristic dimension of the change in solutions of the problem is of the order of μ/\sqrt{a} . It is therefore necessary that the condition $h \ll \mu/\sqrt{a}$ be fulfilled so that the classical difference approximations for small error may be used. The author considers this problem from the viewpoint of optimizing the methods used in classical problems. In connection

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USSR

BAKHVALOV, N. S., Zhurnal Vychislitel'noy Matematiki i Matematicheskoy Fiziki, Vol 11, No 5, Sep-Oct 71, pp 1318-1322

with the above equation, he states and proves the following theorem: Let μ be fixed in the limits $0 < \mu \leq \mu_0$, with some method specified for finding $y(1)$ for which information concerning $a(x)$ is used only for its values at N points; then, for any equation of this type, the error in the approximate value of $y(1)$ is no less than $D_{\min}(1, 1/\mu N^m)$. In this last expression, $D_i > 0$ assume values determined only by a_0, b_0, A, μ_0 , and m .

2/2

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1/2 022 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--STRUCTURAL FEATURES OF SOME DIPHENYL OXIDE DERIVATIVES -U-

AUTHOR--(02)-BAKHVALOV, O.V., KOPTYUG, V.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 143-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC OXIDE, BENZENE DERIVATIVE, BROMINATED ORGANIC
COMPOUND, PHENOL, POTASSIUM HYDROXIDE, COPPER, IR SPECTRUM, MOLECULAR
STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/1669

STEP NO--UK/0052/70/000/001/0143/0145

CIRC ACCESSION NO--AP0100273

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0100273

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. HEATING 82 G P-C SUB6 H SUB4 BR SUB2 WITH 41 G PHOH AND 19 G KOH IN THE PRESENCE OF 0.36 G FRESHLY PPT. CU 6 HR AT 180DEGREES WITH REMOVAL OF H SUB2 O CONTINUOUSLY GAVE 27PERCENT (P-BRC SUB6 H SUB4) SUB2 O (I), B SUBO.3 92-5DEGREES; AT 220DEGREES THE YIELD OF I WAS 35PERCENT. SIMILAR REACTION OF P-BRC SUB6 H SUB4 OH AND PHOR WITH KOH AND CU GAVE BUT 7PERCENT I. IR SPECTRA OF THE PRODUCTS WERE EXAMD. AND IT WAS INDICATED THAT THE CLAIM OF EXISTENCE OF 2 CONFORMERS OF I IS DUBIOUS (RUDENKO, ET AL., 1969). THE RESULTS REPORTED BY R. ARE PROBABLY CAUSED BY IMPURITIES.

UNCLASSIFIED

Acc. Nr.

AP0035117

Abstracting Service:

CHEMICAL ABST. 3-70

Ref. Code

UR0077

61355c Possible determination of the quantity of dyes in colored prints on the basis of densities measured in wide spectral bands. Bakhvalov, V. M. (USSR). *Zh. Nauch. Prikl. Fotogr. Kinematogr.* 1969, 14(6), 472 (Russ). The principle of constructing a system of linear equations and its general soln. for calcg. surface dye concns. in print layers on the basis of measured band ds. is described. For exptl. control an SF-4 spectrophotometer and a CD-7 (CD-4)-densitometer attachment were used. It was possible to increase the spectral bands considerably in 3 parts of the spectrum to det. surface dye concns. in colored prints to the same accuracy as reached on measurements in monochromatic light. F. Vesely

REEL/FRAME

19711868

Metrology, Mapping, Surveying, Graphics

USSR

UDC 531.787.081(083.76)

BAKHVALOVA, V. V., ZOLCTYKH, YE. V., BOROVKOV, V. M.

"Special State Standard for a Unit of Pressure in the $2,500 \cdot 10^5$ to $15,000 \cdot 10^5$ Pa Range"

Moscow, Izmeritel'naya Tekhnika, No 11, 1973, pp 3-4

Abstract: A brief description is presented of the special standard for a unit pressure in the $2,500 \cdot 10^5$ to $15,000 \cdot 10^5$ Pa range. The metrologic characteristics of the standard contains a check circuit in the range to $40,000 \cdot 10^5$ Pa and the basic measures in the plan for its introduction are presented. A comparison of the standard with foreign manometers is made. The periodic monitoring of the variability of the standard parameters is described, the measurement equation is given, and the transfer of the measure of the unit of pressure is described. The transfer is made using resistance manometers with extrapolation of the calibration curves.

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USSR

UDC 531.717.12.082.32:531.787.3

BAKHVALOVA, V. V., and YEREMEYEV, A. Ye.

"Measurement of the Inner Diameter of Cylinders of Piston Manometers by the Pneumatic Method"

Tr. VNII Fiz.-Tekhn. i Radiotekhn. Izmereniy / Works of the All-Union Scientific Research Institute of Physicotechnical and Radiotechnical Measurements /, No 5(35), 1971, pp 269—279 (from Referativnyy Zhurnal, Metrologiya i Izmeritel'naya Tekhnika, No 32. Single Issue No 1, 1972, Abstract No 1.32.398, Resume)

Translation : Results of processing, investigating, and using of a pneumatic instrument for measuring lengths with a complex of calibrated little balls for measuring deep and small openings are described. A standard gaging apparatus has been developed and testified. The technical requirements for the apparatus and measuring conditions guarantee stability, sensitivity, and linearity of characteristics of the instrument. The accuracy of the instrument is $\pm 0.3\text{--}0.4\text{ }\mu\text{m}$. Four illustr., one table, two biblio. refs.

1/1

USSR

531.737

BAKHVALOVA, V. V.

"Effective Area of Piston in Actual Piston Systems"

Tr. Metrol. In-Tov SSSR, Vyp. 104(164), [Works of Metrological Institutes of USSR, No. 104(164)], pp 5-20 (translated from Referativnyy Zhurnal Metrologiya I Izmeritel'naya Tekhnika, No. 4, 1970, Abstract No. 4.32.763 by K. I. M.)

Translation: The problem is analyzed of the effective area of a piston and the deformation correction to piston systems resulting from deviations from true piston form. Analytic expressions are produced for the effective area of the undeformed piston using the geometric parameters of the system, and also using the mean radius of the clearance and the distribution function of pressure along the clearance. Correcting formulas are concluded for the deformation of piston systems under the influence of pressure considering form distortion. The solutions produced make it possible, knowing the distribution of pressure, to determine the complete picture of phenomena occurring in the clearances in a piston manometer in the range of pressures supporting smooth distribution, to calculate the correction for form distortion and to exclude deformation error completely, and also to check the results of previous experiments. Four illustrations, six biblio. refs.

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USSR

531.787.038.001

BAKHVALOVA, V. V.

"Experimental Investigation of Deformation Errors in Piston Manometers"

Tr. Metrol. In-Tov SSSR, Vyp. 104(164), [Works of Metrological Institutes of USSR, No. 104(164)], pp 21-28 (translated from Referativnyy Zhurnal Metrologiya i Izmeritel'naya Tekhnika, No. 4, 1970, Abstract No. 4.32.742 by M. I. M.)

Translation: The results are presented from experimental studies of piston manometers for pressures up to 10,000 kg/cm². A comparison is presented of calculated and experimental values of effective piston system (PS) areas at low pressures, confirming the random nature of divergences within limits of 0.01 percent. For PS with ordinary cylinders, a minimum clearance is established, providing correspondence between experimental and calculated values of deformation correction (C) at high pressures. The reasons for divergence of experimental and calculated values of the deformation C for PS with counterpressure are analyzed. The measurement of geometric parameters of a large number of PS of two designs with ordinary cylinders and with cylinders with counterpressure showed that distortion of the channel form in the PS with ordinary cylinders was not great, and was random in nature. All cylinders with counterpressure

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BAKHVALOVA, V. V., Tr. Metrol. In-Tov SSSR, Vyp. 104(164), pp 21-28

had top channel expansion, resulting from the technology of finishing the piston system. In correspondence with these specific features of piston systems, methods for eliminating residual error (after introduction of the basic C) must differ. In PS with ordinary cylinders, introduction of an additional C for distortion of the form is not required. In order to exclude the C related to the non-smooth distribution of pressure in small clearances, one must select the proper clearance. In particular, the minimum critical clearance for 10,000 kg/cm² is defined under certain measurement conditions. In PS with counter-pressure, an additional C must be used for form distortion. Special experiments studying the value of the additional C were not performed, but qualitative analysis of all experiments conducted earlier showed that in these systems the divergence of experimental and calculated values of deformation C results primarily from the additional C required for form distortion. The C related to the approximation to stepped distribution of pressure apparently appears in some PS of this design, but is considerably lower in value than the C for form distortion, which is confirmed by the direction of deviation of the total C from the calculated value at the limiting values of C related to non-smooth distribution of pressure in the clearance, and in this case can be completely eliminated by selecting a clearance to provide smooth distribution of pressure. Five illustrations, five tables, four biblio. refs.

2/2

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1/2 016 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--THERMODYNAMICS OF SULFUR DIOXIDE REDUCTION. II. REDUCTION OF SULFUR
DIOXIDE BY METHANE IN THE PRESENCE OF CARBON AND BY CARBON IN THE
AUTHOR--AVERBUKH, T.D., RADIVILOV, A.A., BAKINA, N.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 228-36

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMODYNAMICS, SULFURIC OXIDE, CHEMICAL REDUCTION, METHANE,
CARBON DISULFIDE, CHEMICAL PRODUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1987/0473

STEP NO--UR/0080/70/043/002/0228/0236

CIRC ACCESSION NO--AP0104080

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104080

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMODYNAMICS OF SO SUB2 REDN. WITH CH SUB4 IN THE PRESENCE OF C WAS INVESTIGATED AT 1000 TO 1500DEGREESK AT SO SUB2:CH SUB4 RATIOS OF 1.0 TO 2.5 AND AT PRESSURES OF 0.15 TO 1.0 ATM. THE EQUIL. H SUB2 S YIELD AT 1 ATM, 1000DEGREESK, AND AT A SO SUB2:CH SUB4 RATIO OF 1.0 IS 93PERCENT AND AT 1500DEGREESK 48.5PERCENT. THE EQUIL. CS SUB2 YIELD AT 1 ATM, 1500DEGREESK, AND AT A SO SUB2:CH SUB4 RATIO OF 2.5 IS 62PERCENT. THE SO SUB2 REDN. WITH C IN THE PRESENCE OF H SUB2 O VAPOR WAS INVESTIGATED AT 1000 TO 1500DEGREESK, 0.15 TO 1.0 ATM, AND AT SO SUB2:H SUB2 O RATIOS OF 6 TO 100. THE CS SUB2 EQUIL. YIELD WAS 70 TO 80PERCENT. THE CS SUB2 FORMATION IS REPRESENTED BY THE REACTION $5C + 2SO \rightarrow CS_2 + 4CO$. THE PROCESSES ARE NOT SUITABLE FROM A THERMODYNAMICAL POINT OF VIEW (STRONGLY ENDOTHERMIC REACTIONS) FOR INDUSTRIAL CS SUB2 PRODUCTION.

UNCLASSIFIED

Acc. Nr:

AP0049112

Abstracting Service:

CHEMICAL ABST. 5/70

Ref. Code:

4R 0080

B

104650w Thermodynamics of the reduction of sulfur dioxide by methane. I. Averbukh, T. D.; Radivilov, A. A.; Bakina, N. P. (USSR). *Zh. Prikl. Khim. (Leningrad)* 1970, 43(1), 35-43 (Russ). The heats of reaction and equil. compns. of mixts. contg. CH_4 , SO_2 , S_2 , CS_2 , COS , H_2S , CO , H , and H_2O were calcd. for 1000, 1100, 1300, and 1500°K, for molar ratios $\text{SO}_2/\text{CH}_4 = 1.0, 1.33, 2.0, 2.5$ and pressures 0.15, 0.3, 0.6, and 1.0 atm. Max. yield of elementary S results for molar ratio 2.0 and is 58% at 1000°K and 71% at 1500°K. Yield of S increases slightly with pressure. No formation of C black occurred at conditions under investigation. Ivan Wichterle

1/1

REEL/FRA
19800918

7 AK

1/2 010 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SELECTION OF SULFOXIDE MODIFIERS FOR THE SELECTIVE FLOTATION OF
COMPLEX METAL ORES -U-
AUTHOR--BAKINOV, K.G.
COUNTRY OF INFO--USSR *B*
SOURCE--OBOGASHCH. RUD 1970, 15(1-2), 9-12
DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS

TOPIC TAGS--FLOTATION, COPPER SULFIDE, METAL OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/1384

STEP NO--UR/0549/70/015/01-/0009/0012

CIRC ACCESSION NO--AP0133336

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133336

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LAB. EXPTS. ON FLOTATION OF PB,CU CONCS. WITH HIGH CONTENT OF SECONDARY CU SULFIDES AND OXIDES SHOWED THAT NA SUB2 SO SUB3 OR NA SUB2 S CAN BE SUCCESSFULLY REPLACED WITH PURE NA SUB2 S SUB2 O SUB3 (I) OR IN THE FORM OF A SALT MIXT. CONTG. I 55-70, NA SUB2 SO SUB4 15-20, AND NACHS 8-18PERCENT PREPD. BY EVAPN. OF A BY PRODUCT SOLN. FROM H SUB2 S REMOVAL FROM COKE OVEN GAS. FURTHER TESTS ON UTILIZATION OF I SOLNS. FROM VISCOSE RAYON AND CR SUB2 O SUB3 PRODUCTION ARE SUGGESTED.

UNCLASSIFIED

USSR

UDC 621.374.5

YEFIMCHIK, M. K., CHERNYAVSKIY, A. F., BAKINOVSKIY, K. N.

"Nanosecond Time-Amplitude Converter"

Tr. 7-y Konferentsii po vadm. elektron. T. 1. Ch. 4 (Works of the 7th Conference on Nuclear Electronics. Vol 1, Part 4), Moscow, Atomizdat Press, 1970, pp 182-185 (from IZh-Radiotekhnika, No 4, Apr 71, Abstract No 4G262)

Translation: The high speed circuit of a time-amplitude converter with shaping and sorting of the photomultiplier signals is investigated. The circuit is executed from semiconductor devices and is designed for operation in the nanosecond range. The output signals of the device are shaped in the short circuit segments of a coaxial cable, and the transition time of the shaped pulses through the zero line is fixed by the bridge circuit.

1/1

1/2 006 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--MERCAPTOLYSIS OF 3,DEOXYOCTULOSONIC ACIDS -U-
AUTHOR--(02)-OMITRIEV, B.A., BAKINOVSKIY, L.V. **B**
COUNTRY OF INFO--USSR
SOURCE--CARBOHYD. RES. 1970, 13(2), 293-6
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ACETIC ACID, PENTOSE, MERCAPTAN, HETEROCYCLIC OXYGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605013/B12 STEP NO--NE/0000/70/013/002/0293/0296

CIRC ACCESSION NO--AP0140362
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC74

2/2 006

CIRC ACCESSION NO--AP0140362

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. TREATMENT OF THE
3,DEOXYOCTULOSONIC ACIDS, (OBTAINED BY CONDENSATION OF D ARABINOSE WITH
OXALACETIC ACID) WITH ETSH AND HCL GAVE
3,DEOXY,D,GLUCO,OCTULOSONO,1,4,LACTONE DI-ET DITHIO ACETAL (I), M.
94-5DEGREES; (TETRAACETATE M. 90-1.5DEGREES) AND 2,ETHYLTHIO,
4,(D,ARABINO,TETRAHYDROXYBUTYL),2,BUTEN,4,OLIDE (II) IN 5:1 RATIO.
FACILITY: N. D. ZELINSKII INST. ORG. CHEM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 536.244:533.6.011.5

BAKIROV, F. G. and SHAYKHUTDINOV, Z. G., Aviation Institute imeni Ordzhonikidze, Ufa

"Features of Heat Exchange in the Region of Injection Into a Supersonic High-Temperature Flow"

Minsk, Inzhenerno-Fizicheskiy Zhurnal, Vol 24, No 5, May 1973, pp 790-797

Abstract: In order to provide information on the features of heat exchange in supersonic flows with the transverse injection of a secondary gas, an experimental investigation is made of the distribution of the heat-exchange coefficient during the injection of a gas into the supersonic part of a Laval nozzle. The procedure consisted in experimental determination of the heat-exchange coefficient on the basis of nonsteady heating of a special probe which was thermally insulated along the lateral surface of a long cylinder built into the wind-tunnel wall. The cylinder end was fixed flush with the surface of the wall washed by the stream.

The determining dimensionless parameters of the process were revealed; these can be used in the designing of heat insulation for nozzles which possess systems of secondary gas injection for controlling the thrust vector. 4 figures, 6 references.

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- 5 -

USSR

B

"A Compass for Mineral Prospectors"

Russian, Frunze, Sovetskaya Kirgiziya, 15 February 1970, p 2

Abstract: The map, which was compiled jointly by the Institute of Geology of the Kirgiz SSR Academy of Sciences and the Institute of Geology and Geophysics of the Siberian Department of the USSR Academy of Sciences, reflects degrees of change in types of rock depending on temperature and pressure in the earth's crust and on tectonic movements.

The first of its type in Central Asia and Kazakhstan and the most detailed in the Soviet Union, this map takes in a wide expanse of territory, including Kirgiziya, eastern Uzbekistan, southern Kazakhstan and part of Tadzhikistan. It will be part of an analogous all-union map, and will be useful to geologist in locating mineral deposits.

Candidates of geological-mineralogical sciences ~~A. Bakirov~~ and N. L. Dobretsov compiled the map, with essential help from map editors, academician V. S. Sobolev and candidate of geological-mineralogical sciences V. G. Korolev.

1/1

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USSR

UDC 541.183.661.183.12

YERGOSHIN, YE. YE., BAKIROVA, R. KH., MUKHITDINOVA, B. A., RAFIKOV, S. R.,
Institute of Chemical Sciences of the Academy of Sciences of the Kazakh SSR
and the Chemistry Institute of the Bashkir Branch of the USSR Academy of
Sciences

"New Macroporous Electron-Ion Exchangers"

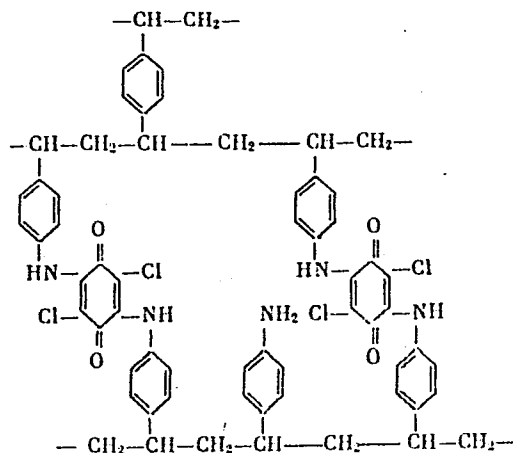
Moscow, Izvestiya Akademii Nauk SSSR - Seriya Khimicheskaya, No 11, 1972,
pp 2607-2609

Abstract: The known reaction of condensation of aromatic and alipatic diamines with quinone or chloranyl leading to the formation of polyaminoquinones (A. A. Berlin, et al., USSR Author's Certificate No 129016, 1960; Byul. izobr., No 11, 1960; Izv. AN SSR. Otd khim. n., 2260, 1959; Vysokomodekul. soyed., No 1, 1643, 1959; L. A. Blyumenfel'd, et al., Bysokomolekul. soyed., No 1, 1647, 1959) with conjugate bonds in the macromolecule chains having increased heat resistance, magnetic susceptibility and complex-forming properties is used to synthesize new electron-ion exchangers. The macroporous weakly basic anion exchange resin Ional ANP was used as the polyamine. The experimental procedure and results are described. The structure of the synthesized electron-ion exchanger is represented as follows:

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USSR

YERGOSHIN, YE. YE., et al., Izvestiya Akademii Nauk SSSR -- Seriya Khimicheskaya, No 11, 1972, pp 2607-2609



The products of the interaction of Ional ANP with chloranil for 0.5, 1 and 10 hours contain 16, 90, 15, 20 and 14.9% Cl. This reduction in chlorine in the 2/3

USSR

YERGOSHIN, YE. YE., et al., Izvestiya Akademii Nauk SSSR -- Seriya Khimicheskaya, No 11, 1972, pp 2607-2609

polymer can be explained by partial replacement of it by aceto groups. The formation of additional transverse bonds is confirmed by data from chemical analysis, infrared spectra and a reduction in the swelling of the synthesized redox ion exchange resin in dimethyl formamide.

3/3

USSR

BAKIYEV, S. A., BASKOVA, K. A., VASIL'YEV, S. S., MOXISEN, M. A., SOROKIN, A. A., CHUGAY, T. V., Institute of Nuclear Physics of Moscow State University

"Concerning 0^+ Levels in the Xe^{130} Nucleus"

Moscow, Yadernaya Fizika, Vol 18, No 2, Aug 73, pp 233-238

Abstract: The β -spectrum of Cs^{130} was measured on a spectrometer with an Si(Li) detector. A peak identified as the K-line of conversion electrons of the E0 transition with energy of 2016 keV was observed in the region of the upper boundary of the β -spectrum at an electron energy of about 1982 keV. On the basis of this level, quantum characteristics $I^\pi = 0^+$ are assigned to the 2016 keV level of Xe^{130} .

1/1

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USSR

BAKIYEV, S. A., KORDYUKOVICH, V. O., KRYUKOVA, L. N., MURAV'YEVA, V. V., and
SOROKIN, A. A., Scientific Research Institute of Nuclear Physics of Moscow State
University imeni M. V. Lomonosov

"Investigation of Radioactive Decay of Neutron Deficient Isotopes of Pt, Ir, and Os"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol. 34, No. 1, Jan 70,
pp 59-61

Abstract: The γ -radiation of neutron deficient isotopes Pt^{189} , Pt^{188} , Ir^{189} , and Os^{185} formed by bombarding gold with protons on the synchrocyclotron of the Joint Institute of Nuclear Research was investigated on a Ge(Li)-spectrometer. A chemical method was used to separate the disintegration products of the gold. The energies and relative intensities of the γ -rays are presented in tables for each of the isotopes. The experimental values obtained are compared with data of other authors. In the case of Pt^{189} , it was difficult to separate the lines of Pt^{189} in Pt^{191} , so only upper limits of the intensity were given for γ -rays of 81 and 94 kev. The discrepancy in the intensities of the lines 94, 140, and 300 kev with data of Fourier, et al were beyond the limits of the experimental error; it was impossible

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USSR

BAKIYEV, S. A., et al, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol. 34, No. 1, Jan 70, pp 59-61

to explain this divergence by the possible contribution of lines caused by the presence of other isotopes in the platinum fraction. Explanations of certain other discrepancies in the measurements are offered.

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AA0052689

BAKIYEVA, O.

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 2-70

244207 TRENCH EXCAVATOR comprises rotor with
buckets. It is distinguished by
providing the bucket terminal sections with
longitudinal walls 3,5. One of them 3 is made at
right angles to the bucket bottom 4, whereas the
lower part of the other is made at an angle. This
excludes the shock action from the walls of the
pipe opening device.

10.2.68. as 1217820/29-14, ODINTSOV, L.A. et al.
(8.10.69) Bul 17/14.5.69. Class 84d, Int. Cl.
E 02f.

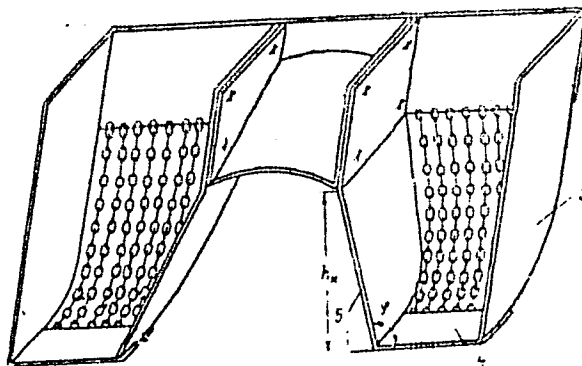
1/2

19821472

18

AA0052689

Odintsov, L.A.; Belov, B.F.;
Rashchepkin, K.Ye.; Berdnikova, Z.K.; Bakiyeva, O.Z.



19821473

1/2 009 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--CONVERTER STEELMAKING -U-
AUTHOR--(05)--BAKLAN, B.P., CSTAPENKO, V.D., STAKHNEVICH, V.L., GVOZDEV,
A.I., PERESVETOV, S.M.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 263,623
REFERENCE--LITKRYTIYA, IZJEBET., PROM. OBRATSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--10FEB70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CHEMICAL PATENT, STEEL MANUFACTURE PROCESS, SPONGE IRON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1624 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0132087
UNCLASSIFIED

2/2 CC9

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0132039

ABSTRACT/EXTRACT--(U) GE-O- ABSTRACT. STEEL IS MELTED BY USING CHARGES
OF SMALLER THAN 30PERCENT HEAT DRE BRIQUETS AND SMALLER THAN OR EQUAL TO
40PERCENT SPONGE FE. FACILITY: GOSUDARSTVENNYY

PROYEKTNO-IZYSKATEL'SKIY I DORFOKAZVEDUCHNYY INSTITUT GIPROTOKRAZVEDKA.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DOUBLE FRAGMENTATION OF AN ADAMANTANE RING -U-

AUTHOR--(04)--STEPANOV, F.N., SUKHOVERKHOV, V.D., BAKLAN, V.F., YURCHENKO,
A.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. CRG. KHIM. 1970, 6(4), 884-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ADAMANTANE, AROMATIC CARBOXYLIC ACID, CATALYST, ZINC, THERMAL
DECOMPOSITION, BROMINATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--2000/2161

STEP NO--UR/0366/70/006/004/0884/0885

CIRC ACCESSION NO--AP0125744

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NC--AP0125744
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING
1,3,BIS(BROMOMETHYL),5,7,DIBROMOAdamantane (I) WITH POWD. ZN GAVE
1,3,5,7,TETRAMETHYLENECYCLOOCTANE (II). BROMINATION OF II IN CCL SUB4
GAVE I. THE REACTION OF II WITH HBR GAVE
1,3,DIBROMO,5,7,DIMETHYLAdamantane. THE REACTION OF II WITH HCO SUB2 H
IN 1PERCENT OLEUM GAVE 1,3,DIMETHYLAdamantane,5,7,DICARBOXYLIC ACID.
CATALYTIC ALLENE TETRAMERIZATION GIVES
1,3,4,6,TETRAMETHYLENECYCLOOCTENE, NOT II, AS REPORTED BY I. WILLIAMS,
ET AL., (1962). FACILITY: KIEV. POLITEKH. INST., KIEV, USSR.

UNCLASSIFIED

USSR

BAKLAN, V. V.

"Limit Theorems for Systems of Arbitrarily Independent Particles"

Teoriya sluchayn. protsessov [The Theory of Random Processes -- Collection of Works], No 1, Kiev, Nauk. Dumka Press, 1973, pp 3-9 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V32 by the author)

Translation: Particles wandering at discrete moments in time over a phase of space with denumerable number of states $\{E_j\}$ are arbitrarily called independent if with fixed values of $\{N_j(t)\}$ ($N_j(t)$ is the number of particles in state E_j at moment t) each particle regardless of the others, is converted from its given state to another according to the transition probability matrix

bility matrix $\left\| P_{sk} \left(\left\{ \frac{N_j(t)}{N} \right\} \right) \right\|$. It is assumed that with any

$t \sum_j N_j(t) = N$. It is proven that under certain conditions, the vector quantity

$r^{(N)}(t) = \left\{ \frac{N_j(t)}{N} \right\}$ probably converges as $N \rightarrow \infty$ to $\rho(t) = \{\rho_j(t)\}$, where the se-

1/2

USSR

BAKLAN, V. V., Teoriya sluchayn. protsessov, No 1, Kiev, Nauk. Dumka Press, 1973, pp 3-9

quence, $\{\rho_j(t)\}$ is defined by the recurrent relationship $\rho_j(t+1) = \sum_s \rho_s(t) P_{sj}(\rho(t))$. The limit distribution of the quantities $\sqrt{N}(r^{(N)}(t) - \rho(t))$ is found.

2/2

- 5 -

1/2 007

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--ROLE OF ELECTRICAL DOUBLE LAYER IN THE SETTING OF SLAG PORTLAND CEMENT -U-

AUTHOR--(05)-VED, E.I., BAKLANOV, G.M., ZHAROV, E.F., NITCHENKO, V.S., SIDOROVA, T.A.

COUNTRY OF INFO--USSR

SOURCE--BUDICEL'NI MATER. KONSTR. 1970, (1), 31-2

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CEMENT, CALCIUM CHLORIDE, COHESION STRENGTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1995/1478

STEP NO--UR/0635/70/000/001/0031/0032

CIRC ACCESSION NO--AP0116915

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116915

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SETTING PROCESS IS EXPLAINED IN
TERMS OF THE SHAPE OF THE ZETA POTENTIAL CURVES. ADDN. OF SMALL AMTS.
OF CACL SUB2 CAUSES SHARP DROP IN ZETA POTENTIAL, INDICATING COMPRESSION
OF ELEC. DOUBLE LAYER AND LIMITED MIGRATION OF NEG. CHARGED OH AND CL
IONS. RISE IN ZETA POTENTIAL WITH INCREASING ADDN. OF CACL SUB2
INCREASES IN DIFFUSION REGION OF ELEC. DOUBLE LAYER OF NEG. CHARGED OH
AND CL IONS AND ACCELERATION IN SETTING. COHESION FORCES RISE AND
STRENGTH INCREASES.

UNCLASSIFIED

172 009

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--NEW BINDER FOR GUNITE TYPE CONCRETING -U-

AUTHOR--(05)-BAKLANOV, G.M., KAZAKEVICH, E.V., PONOMARENKO, D.I., LADYGIN,
F.F., KRIPITSER, A.M.

COUNTRY OF INFO--USSR

SOURCE--STROIT. MATER. 1970, (3), 26-7

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--CEMENT, BLAST FURNACE SLAG, GYPSUM, CONSTRUCTION MATERIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1992/1650

STEP NO--UR/0228/70/000/003/0026/0027

CIRC ACCESSION NO--AP0112644

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0112644

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. FAST SETTING AND FAST HARDENING CEMENT WAS DEVELOPED FOR GUNITE TYPE CONCRETING, SO CALLED SPATTER CEMENT. IT CONSISTED OF CLINKER WITH DEGREE OF CAO SATN. EQUALS 0.83-0.87 OCNTG. 3CAO.AL SUB2 O SUB3 4.5-8, 3CAO.SIO SUB2 47-55PERCENT, SYNTHETIC SLAG WITH 70PERCENT 12CAO.7AL SUB2 O SUB3, GRANUALTED BLAST FURNACE SLAG AND GYPSUM. THE BLAST FURNACE SLAG REDUCED THE COST AND INCREASED ITS RESISTANCE IN CORROSIVE MEDIA. AT A WATER-CEMENT RATIO OF 0.4 A SETTING DURATION OF 1-10 MIN WAS OBSD. IN THE 1ST 2 HK A STRENGTH OF 20 KG-CM PRIME2 WAS ATTAINED, AFTER 28 DAYS A COMPRESSIVE STRENGTH OF 250-374 KG-CM PRIME2. IN SUBTERRANEAN CONSTRUCTIONS IN ORE MINES THE SPATTER CEMENT MET ALL THE REQUIREMENTS. IT NEEDS NO SETTING ACCELERATORS, AND THE NO. OF SERVICE PERSONNEL FOR THE PREPN. AND ADDN. OF ADDITIVES CAN BE REDUCED. A CONCRETE COATING OF 20-25 CM CAN BE APPLIED IN 1 STAGE. THE METHOD CAN BE USED NOT ONLY IN MINES, TUNNELS, SUBWAYS BUT OWING TO ITS CHEAPNESS ALSO IN CONSTRUCTION WORK.

UNCLASSIFIED

USSR

UDC: 621.372.85

KRAVCHENKO, V. P., ZHILKOV, V. S., SALYGA, V. I., USTIMENKO, V. V., BAL'-
ZAMOV, B. N., BANLANOV, O. D.

"On the Possibility of Constructing Automatic Matching Circuits in the
Microwave Band"

Pribory i sistemy avtomatiki. Resh. rezhved. nauch.-tekhn. sb. (Devices
and Systems for Automation. Russian Interdepartmental Scientific and
Technical Collection), 1971, v. 15, pp. 75-77 (from Rad-Radiotekhnika,
No 6, Jun 71, Abstract No 24188)

Translation: The authors consider circuit designs for automatic matchers
for waveguide elements. Possible versions for practical realization of
these circuits are considered, and it is also pointed out that impedance
transformers based on using bodies of the proper shape can be used in
automatic matchers. It is concluded that adaptive automatic matchers can
be made for operation over a wide frequency band. Resumé.

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USSR

UDC 621.373.421.15

BARZHIN, V.YA., BAYLANOV, G.D., KOSHARNOVSKIY, G.V., RASSEKAZOV, I.E.,
VERBITSKAYA, T.N.

"Small-Size Crystal Oscillators, Efficient In A Wide Range Of Temperatures"

V sb. Radioelektronika letatel'n. apparatov (Aircraft Radio Electronics--
Collection Of Works), No 3, kar'kov, Kar'kov Aviation Institute, 1971, pp 49-55
(from RZh:Radiotekhnika, No 2, Feb 72, Abstract No 2D367)

Translation: Problems are considered of thermostabilization of crystal oscillators by ferroelectric materials which possess the effect of temperature auto-stabilization. The results are presented of an experimental investigation of a crystal oscillator at 25 MHz, thermostabilized by Type Vn-2 ferroelectrics. The possibility is shown of the construction of such an oscillator with a buffer stage, with the dimensions of a bantam tube. 5 ill. 3 ref. Summary.

1/1

USSR

UDC: 621.372.852.6

PIROTTI, Ye. L., ~~BAKLANOV, O. D.~~, BAL'ZAMOV, B. N., KRAVCHENKO, V. F.,
ZHILKOV, V. S., ~~KHIZHNIK, N. A.~~, USTIMENKO, V. V.

"A Method of Calculating Impedance Transformers Based on Rectangular Waveguides"

Pribory i sistemy avtomatiki. Resp. mezhved. nauch.-tekhn. sb. (Devices and Systems for Automation. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 14, pp 11-15 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5B151)

Translation: The authors proposed a fundamentally new method of calculating an impedance transformer on the basis of a strict solution of the internal problem of electrodynamics using integrodifferential equations. An analysis of the results of computational and experimental research shows that the procedure for calculating and designing the proposed model may find extensive practical application in a number of microwave devices as well as in the development of an automatic waveguide line. Five illustrations, bibliography of five titles. *Resumé.*

1/1

Waveguides

USSR

UDC: 621.372.852.6

~~BAKLANOV, O. D.~~, BAL'ZAMOV, B. N., USTIMENKO, V. V., IVANOV, N. S., KRAV-
CHENKO, V. F., ZHILKOV, V. S., KHIZHNIK, N. A., PIROTTI, Ye. L.

"An Impedance Transformer Based on a Cylindrical Waveguide"

Pribery i sistemy avtomatiki. Resp. mezhved. nauch.-tekhn. sb. (Devices and
Systems for Automation. Republic Interdepartmental Scientific and Technical
Collection), 1970, vyp. 14, pp 11-15 (from RZh-Radiotekhnika, No 5, May 71,
Abstract No 5B152)

Translation: The paper describes the design of an impedance transformer based
on a cylindrical waveguide. An analysis of the results of experimental
studies shows that practical realization of the device is feasible in micro-
wave technology. The proposed design may find application in synthesis of
automatic lines based on cylindrical waveguides. Resumé.

USSR

UDC 518.5:681.3.06

KALINICHENKO, L. G., BAKLANOVA, L. V., SULAKSHIN, S. S.

"Determination of Correlation Characteristics Using the Minsk-1 Computer"

Izv. Tomsk. Politekhn. In-ta [News of Tomsk Polytechnical Institute], Vol 217, 1971, pp 32-38, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V816).

NO ABSTRACT.

1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EXISTENCE OF A PLACENTAL BARRIER FOR CESIUM-137 -U-
AUTHOR--(04)--BAKLANOVA, S.M., BUROVINA, I.V., LEONTYEV, V.G., SKULSKIY,
I.A.
COUNTRY OF INFO--USSR
SOURCE--RADIOBIOLOGIYA 1970, 10(11), 141-4
DATE PUBLISHED--70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, BIOLOGICAL AND MEDICAL
SCIENCES
TOPIC TAGS--CESIUM ISOTOPE, HEART MUSCLE, WHITE RAT, GUINEA PIG, PLACENTAL
TRANSPORT

CONTRCL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/1836

STEP NO--UR/0205/70/010/001/0141/0144

CIRC ACCESSION NO--AP0127246

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127246

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TISSUES OF THE GASTROCNEMIUM MUSCLE AND HEART OF NEWBORN, 8 AND 21 DAY OLD, AND ADULT WHITE RATS, AND SKELETAL MUSCLE TISSUES OF NEWBORN, AND ADULT GUINEA PIGS, WERE STUDIED. DIFFERENCES IN THE CONTENT OF THE ALKALI ELEMENTS IN THE TISSUES DEPENDED ON THE DEGREE OF FUNCTIONAL MATURITY OF THE TISSUES AND WAS NA LARGER THAN K LARGER THAN RB LARGER THAN CS. THE ION SELECTIVE PROPERTIES OF THE TISSUES, ESP. DURING ONTOGENESIS DETD. THE PRIME137 CS DISTRIBUTION BETWEEN THE MOTHER AND OFFSPRING. FACILITY: INST. EVOL. FIZIOL. BIOKHM. IM. SECHENOVA, LENINGRAD, USSR.

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TITLE--CHANGES IN THE DISTRIBUTION OF ALKALINE ELEMENTS IN ORGANS AND
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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GENERAL PATTERN OF THE DISTRIBUTION OF ALKALINE ELEMENTS IN ORGANS AND TISSUES WHICH IS REVEALED IN COMPARATIVE STUDIES ON VERTEBRATES, IS ALSO FOUND AT EARLY POSTNATAL STAGES OF MAMMALS. THESE FEATURES INCLUDE RELATIVELY CONSTANT VALUES OF NA-K RATIO IN THE LIVER AND CARDIAC MUSCLE, ELEVATED SELECTIVITY OF HEPATIC CELLS TO RUBIDIUM IONS, POSITIVE CORRELATION BETWEEN THE CONTENT OF LIPIDS AND SODIUM IN TISSUES. FORMERLY OBSERVED DIFFERENCES IN THE DISTRIBUTION OF ALKALINE ELEMENTS IN TISSUES OF ANIMALS FROM DIFFERENT CLASSES OF VERTEBRATES ARE FOUND SIMILARLY DURING ONTOGENETIC DEVELOPMENT OF GUINEA PIG AND RAT. DURING THE DEVELOPMENT OF FUNCTIONAL ACTIVITY OF MUSCLE TISSUE THE RATIO NA-K DECREASES. DIFFERENCES BETWEEN THE BRAIN AND OTHER TISSUES WITH RESPECT TO THEIR RUBIDIUM AND ESPECIALLY CAESIUM CONTENTS INCREASE. THIS PROCESS IS PRESUMABLY DUE TO THE INCREASE IN THE GLIAL MOLITY OF THE BRAIN WHICH IS RICH IN SODIUM AND LOW IN RUBIDIUM AND CAESIUM. FACILITY: INSTITUTE OF EVOLUTIONARY PHYSIOLOGY AND BIOCHEMISTRY, USSR ACADEMY OF SCIENCES, LENINGRAD.

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PISKUNKOVA, N. F., PIMENOVA, M. N., and BAKLASHOVA, T. G., Biology Faculty,
Moscow State University

"Some Data on the Role of Photosynthesis in the Utilization of Acetate and
Pyruvate by *Scenedesmus quadricauda*"

Moscow, Mikrobiologiya, Vol 40, No 3, May/Jun 71, pp 386-388

Abstract: Diuron added to algae cultures exposed to light reduces the incorporation of C^{14} from bicarbonate by 90% and that from acetate and pyruvate by 80%, thus bringing it down to the level observed in darkness without diuron. This indicates that when the second photosystem is inhibited, algae cells are unable to assimilate CO_2 formed through oxidation of acetate and pyruvate. The presence of acetate and pyruvate in the culture medium increases the concentration of chlorophyll in the algae by 40%, but does not increase the concentration of proteins and carbohydrates. It is concluded that *Scenedesmus quadricauda* develops mainly on the basis of photoautotrophic growth.

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USSR

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ARKHIPOV, L. I., and BAKLASTOV, A. M.

"Experimental Study of Heat Exchange During Vapor Condensation on a Rotating Disk in a Vacuum"

Dokl. nauchno-tekhn. konferentsii po itogam nauchno-issled. rabot za 1968-1969 gg. Sekts. Promteploenergetiki. Podseks. Sushil'n i teploobmen. ustroistv (Reports of the Scientific-Technical Conference on Summaries of Scientific Research Work for 1968-1969. Industrial Thermal Engineering Section, Subsection on Desiccating and Heat Transfer Devices), Moscow Power Engineering Institute, 1970, pp 96-102 (from RZh-Teploenergetika, No 5, May 70, Abstract No 5G93)

Translation: Experiments were run at pressures of 36 and 73.3 mbar; disk diameter was 210mm, and its rotational speed was from 100 to 2000 rpm. Empirical relationships are obtained for mean values of KTO (coefficient of thermal emission). Four figures, three references.

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